STATEMENT FOR THE RECORD OF D/IRO FOR ADP HEARINGS

BEFORE SUBCOMMITTEE ON EVALUATION OF THE HPSCI - MARCH 22, 1979

Mr. Chairman and Members of the Committee:

It was not quite one year ago that I last appeared before you to discuss new ADP management initiatives in the Intelligence Community, and the problems which we faced in providing better and more efficient ADP support to our intelligence activities. I am happy that you have evinced your continued interest in our endeavors and that I am able to re-report to you that we have made substantial progress toward achieving our goals during the past year.

In your call for this hearing, the Information Resources Office was asked to report on the following:

     o Community-wide management initiatives

     o IRO contractual efforts

     o Problems, strengths, and weaknesses of the
       management approach.

     o Future planning and long-range issues.

In my prepared testimony, I will address each of these in the order submitted.

I: Community-wide Management Initiatives

In the hearings last year we reported to you that each of the principal ADP components of the Intelligence Community, DIA, CIA and NSA had individually undertaken new management procedures and organiza-tional initiatives, tailored to their own particular organizational

problems and needs. Their actions were designed to improve ADP management and resource allocation within each of their individual spheres of responsibility.

1. Within DoD, the Assistant Secretary of Defense for Communications, Command, Control and Intelligence and the Director, DIA had jointly created a Systems Planning Office for the Department of Defense Intelligence Information System (DODIIS).

2. NSA had consolidated their ADP and Telecommunications Groups and had adopted a formal management structure for validation of requirements and review of concept alternatives for new system acquisitions.

3. At CIA, the Executive Advisory Group, now known as the Executive Committee, began reviewing ADP as an explicit aspect of Agency resource requirements. In the process, 82% of the centralized, Agency-wide ADP support provided by the Office of Data Processing was reviewed in 1978. In 1979, the Committee will expand its review to include all new initiatives and expansions of ADP applications on an Agency-wide bases.

I am happy to be able to report that each of these initiatives have been fully implemented and have worked well during the past year.

DIA's System Planning Office has produced a baseline DODIIS long-range plan which will be updated and refined annually. It promises to develop into an effective tool for managing the large, far-flung and complex information handling capability encompassed within the DODIIS structure.

The new NSA and CIA management procedures have permitted much closer review and control of ADP and Telecommunications developments by agency

officials at the highest levels. These initiatives appear be-

ing to produce more coordinated and systematic development of ADP and

Telecommunications Systems at each of these agencies.

The new management initiative which was taken last year by the DCI

was the creation of the Information Resources Office. This was done

concurrently with and as a part of the general reorganization of

the Intelligence Community Staff. The office was built out of and

subsumed the duties of the Information Handling Division of that

organization.

The Information Handling Division had been created to provide

staff support for the DCI's Intelligence Information Handling Com-

mittee, commonly referred to as the IHC. The IHC was created in 1968

as a result of recommendations of the President's Foreign Intelligence

Advisory Board and action taken by the NSC pursuant thereto.

This Committee was given a very broad charter which stated that

its primary function was "to formulate and recommend to the Director

of Central Intelligence objectives, policies, plans and programs re-

lating to the establishment of an Intelligence Community information

handling system."

The objectives of the Information Resources Office, however, are

even broader and, perhaps, are best summarized by the following passage,

which I quote from the DCI's Annual Report to Congress and the Intel-

ligence Community published in January 1978:

> "Top management of the Community and Congressional Committees
> dealing with intelligence matters are in agreement that the re-
> sources for hardware, such as computers and telecommunications
> equipment, and in fact all resources for information handling

systems and capabilities must be provided, managed and
operated under a comprehensive Community plan. Requests
for resources to create new capabailities must be evalu-
ated in the context of a total official plan, and plan-
ning in turn must be directly related in a very practical
way to the cyclical process for programming and budgeting
and the procedures of zero-based budgeting (ZBB)."

Thus, the objectives of the Information Resources Office were broadened to

include primary resource management and planning responsibility for *not ADP for CIA!*

the entirety of the Intelligence Community ADP and Telecommunications resource

inventory, including assets being utilized for administrative support, those

which process raw data, and those whose function is information handling

per se.

When I assumed the duties of Director of this new office, the DCI had

received a memorandum from a consultant recommending that a new management

mechanism be created to deal with ADP and Telecommunication problems.

The consultant stated: " . . . the Information Handling Division of

the IC Staff . . . is totally understaffed for responsibilities of this

magnitude." My own assessment was also that the staff which then existed

was inadequate to deal with responsibilities of the IHC, much less the

new responsibilities proposed to be given to the new office.

Therefore, the first task to be accomplished was the creation of an

adequate staff possessing qualifications appropriate to the mission and

functions of the office. I assembled the nucleus of a staff. Together,

we identified initial objectives and prioritized them based upon their

anticipated contribution to the long range objectives of the DCI and their

potential for attainment within the limitations of the personnel assigned to

the office. These objectives were as follows:

1. To support the Resource Management Staff in establishing the DCI's "full and exclusive authority" over the National Foreign Foreign Intelligence Program and budget under the provisions of Executive Order 12036, and to establish IRO as the staff element principally responsible for the review of the ADP and Tele-communications portions of program and budgets.

2. Provide analytical and evaluative support to the Resource Managaement Staff by undertaking studies in the areas of ADP-T and information handling.

3. To revitalize and redirect the efforts of the Intelligence Information Handling Committee, and establish effective working relation-ships with the staffs of the various IC agencies responsible for ADP management.

4. To formulate and secure agreement in principle as to a procedure for developing a community-wide ADP plan and secure five-year ADP plans from the individual IC agencies and components.

5. To establish effective relationships with the Oversight Com-mittees of Congress and to establish IRO's role in coordinating the Community's response to Congress in the ADP-T area.

6. To redirect and organize the office's external support con-tracts into a focused and coherent program designed to produce much needed inputs for improved resource decision-making and the develop-ment of community-wide ADP-T planning and policy guidance.

The IRO Staff has been built from the ground up. We have only one person remaining from those who comprised the Information Hand-

ling Division of one year ago. The rebuilding process was dishearteningly slow, first because of the long delays in securing OMB and Congressional approval of the reprogramming actions required for the IC Staff reorganization, and then because Presidential limitations on hiring were imposed within a few weeks after final action on the reprogramming request. This meant that during the most critical period of program and budget review, the IRO Staff operated with only four professionals, in addition to the Director--only one half of the programmed number. Within 30 to 60 days from now, we hope to attain our presently programmed strength of nine professionals and two clerical positions.

First priority was necessarily given to partipation in the FY 80 program and budget cycle. During the summer of 1978, IRO Staff members participated in the CCP, GDIP, and CIAP program reviews, and separate ADP program hearings were conducted on selected topics in these programs. In addition, a cross-program review of the DIA/CIA SAFE Project was conducted.

One result of this program review was the development and presentation to the DCI of a major program issue concerning project SAFE, the joint DIA/CIA system development designed for support to production analysts.

As a consequence of IRO review and evaluation of the SAFE Program, the DCI directed that the project be placed on a design-to-cost basis. Phased implementation embodying the maximum practicable degree of commonality was provided for, with an analyst support subsystem IOC scheduled for FY 1982, a storage and retrieval subsystem IOC for FY 1983. System integration is scheduled for IOC in FY 1984.

IRO also participated fully in the FY 80 budget preparation during the Fall of 1978. For the first time, ADP and Telecommunications line items in each agency's budget request were reviewed in detail by IRO monitors. Issues were raised and presented. The ADP and Telecommunications portion of the FY 80 NFIP budget request as submitted to Congress by the President, is very lean. Although the budget is essentially level in real dollar terms, it provides adequately for the Community's highest data processing and telecommunication needs. The budget includes the first significant portion of funding for a major new system, Project SAFE, which will make a significant contribution toward improving quality of analysis in support of Community production. IRO was also involved in all reprogramming actions subject to DCI approval which involved ADP. The ultimate outcome of each of these requests was in accordance with IRO recommendations.

Building on the experience gained during the FY 80 program reviews and budget development, IRO played a major role in the preparation of the DCI's FY 81-85 program guidance and data call--so much so, that ADP is one of the major themes of the Guidance. The guidance itself and the data it will produce will strengthen the ability of the Resource Management Staff, the DCI, and, ultimately the Congressional Oversight Committees to address all aspects of Intelligence Community ADP, in FY 81 and beyond. The Guidance lays an important foundation for development of a realistic and effective ADP plan for the Intelligence Community.

The success of IRO in carrying out this portion of its mission during the past year has placed the office in a position to develop and analyze ADP and Telecommunications policy alternatives for DCI consideration and adoption; and,

once adopted, to utilize the program and budget process to ensure their proper implementation.

Since the DCI has line authority over only the CIA and since the vast majority of the Intelligence Community ADP and Telecommunications resources are located in other elements of the Community beyond his operational control, the implementation of a truly coordinated community ADP development plan will require a large measure of cooperation and coordination between many of the bureaucratic elements into which the Intelligence Community is divided. In order to facilitate the required cooperation and coordination some effective mechanism must exist and be utilized.

The Intelligence Information Handling Committee was already in existence, and, as successor to the former Chief of the Information Handling Division, the Director of Information Resources was also appointed Chairman of this DCI Committee. However, in order to effectively serve the desired purpose, a revitalization and reorientation of the Committee was needed. In order to accomplish this, regular meetings of the Committee were instituted, the appointment of leading ADP officials of the principal Community components as members was secured, and the laying out and implementation of an organized program of work for the Committee was commenced. Limitations of time preclude a review of all of the activities of the Committee during the year, but one deserves special mention because of its importance to the accomplishment of the long-range goals and objectives for which IRO was formed.

The extension of access to the totality of the information resources of the Community, especially through the internetting of its computers and the automated data bases which they support, has long been an objective of the Community in general and the IHC in particular. However, the achievement

of that objective requires the expenditure of substantial amounts of scarce resources. Although some limiited efforts have been made in the past, we found that no broad-based study had ever been accomplished seeking to define what the real requirements were for making such access available across the Community.

Accordingly we proposed, and the IHC endorsed, a Community study of analysts' requirements for the interagency exchange of data. The study is being carried out by a task team of analysts and ADP experts furnished by the principal elements of the Community involved. Analysis is being supported by a contractor funded by IRO. This study, due to be completed within the next 30 to 60 days, should yield important conclusions to support IRO in its development of a Community ADP plan and for use in its resource management role.

A final principal accomplishment of IRO, in cooperation with all of the elements of the Community, was to begin the definition of a Community ADP planning process and to begin to build a plan which will satisfy the requirements which have been stated therefor by the Congressional Oversight Committees and the DCI.

Because of the limitations inherent in its organizational structure, the many and diverse uses of ADP in the Intelligence Community, and the sheer size and complexity of the problem, it should be obvious to anyone who is experienced in the field that the only realistic and feasible approach is to atttack the problem from the bottom up.

At this time last year, however, there was almost nothing in existence upon which to base the pursuit of such an approach. As reported to you, DIA in conjunction C^3I, had recently organized the Systems Planning Office which was begin-

ning the task of developing a master plan for the DODIIS architecture, but none of the components of the Community then had anything as comprehensive as an individual agency ADP plan.

As a first step, an ADP Subcommittee of the IHC was formed which included the head of the DIA Systems Planning Office and lead ADP officials of both CIA and NSA. Basic terms of reference for a Community ADP planning effort were agreed upon, and efforts to produce agency ADP plans at CIA, NPIC and NSA were begun, with the understanding that these plans would than be submitted to IRO, along with the DODIIS Master Plan and long-range plans for such Community Systems as CAMS and COINS. These will then be used by IRO as a basis for their coordination into a preliminary ADP plan for the Intelligence Community.

I am happy to report to the Committee that IRO now has in hand all of the agency plans and is beginning the process of producing an overall Community plan based thereon. Experience with this first attempt will lead to further refinement and definition of a Community planning process whereby the plans will be updated and modified on an annual basis in a manner which will permit them to provide a valuable input to the program and budget process.

II. IRO Contractual Efforts

Effective implementation of the multi-faceted missions and objectives of IRO will depend upon the utilization of the proper combination of internal staff work and external contractual support. It would, in my opinion, based upon seven years of experience in managing a similar but less extensive and complex a problem in the government of the State of Mississippi, be a grave mistake to attempt to build a staff large enough and possesssed of the

of this magnitude. The proper approach is to have a relatively small, but highly competent staff, supported by specifically tailored contractual efforts closely monitored and supervised by the staff.

One of the first tasks undertaken after the IRO was organized was to reorient the contractual support effort which it inherited into a more focused and coherent program designed both to address both pressing immediate concerns and the problem of providing key building blocks for the development of the Intelligence Community ADP plan.

As I previously pointed out in discussing our work with the IHC, one important missing ingredient was any broad guage analysis of Community requirements for the interagency exchange of data and information. In order to pursue this effort, an existing contract was modified and extended to provide needed contractor support to the IHC sponsored study in this area.

The contractor in this case supplied the expertise needed to design the study methodology, working with the government task team to perfect analyst interview techniques and in organizing and statistically analyzing data collected by the government task team.

As Director of IRO, I provided staff and administrative support, and provided supervision, coordination and guidance to the entire effort. This example of combining contractor expertise with the complementary expertise of government task team members, closely supported and supervised by the IRO Staff, has produced excellent results with a minimal investment of each category of resources in relation to the size of the task. We consider it a model for future similar efforts.

Of more immediate concern was the necessity for an in depth evaluation of the SAFE Project as a basis for the important decisions which were required in the course of FY 80 program review and budget development. Contractor support in this area was urgently required and secured. His findings supported and validated the program decision on this large and important new initiative previously described. As the SAFE Project moves toward a detailed design and into the implementation phase, we plan to continue to monitor the project in order to see that the Congressional and DCI mandate to develop the combined project with maximum commonality and that the DCI's overall community objectives are adhered to.

The COINS System is a Community project which began as an experiment to demonstrate the feasibility of internetting basically incompatible computers and software systems using technology developed for the ARPANET System. COINS has long since passed through its experimental phase and is now an important segment of the total community information handling framework. No overall community ADP plan would be complete or adequate without dealing with the future of COINS.

Therefore, a contract is underway with a firm having the requisite technical expertise in the evaluation of communication networks to provide IRO with an assessment of the adequacy of the COINS technology to meet the Community's needs in this area during the 1980's and the capability of COINS to support anticipated requirements for network expansion.

Some new form of information system must be created in order to support effective Community-wide planning and to enable IRO to respond

quickly and accurately to the increasing demands of Congress and the DCI

for information about Community ADP and Telecommunications.

The creation and maintenance of such a body of information will,
however, require the expenditure of substantial resources. In order to
maximize its utility and minimize its cost, both to IRO and to the members
of the Community which must supply the information which will ultimately be
needed to maintain it, this system must be carefully designed to make
maximum use of management information reporting systems now in place.
Therefore, we have a contract that will produce a study of this problem
which will provide us with some of the guidance which we require in
this area before embarking on the establishment of such a system by
IRO.

Before leaving the discussion of our contractual support effort
during the past year, I would like to briefly describe the single effort
which promises the greatest long-term benefit to both IRO and to all
other elements of the Intelligence Community.

The Intelligence Community uses ADP primarily to support the trans-
mission, processing, storage and retrieval of information and data as
it flows from the collector to the producer of finished ~~products~~. Any
effective Community ADP and Telecommunications plan must be designed
to enhance and improve the support given to this information flow. De-
spite this fundamental fact, nowhere across the Community as a whole
had any systematic effort been made to survey and document the nature
of the information flow and processing which supports the Intelligence
Community's analytical process.

Realizing that the development and maintenance of an information flow model of the entire Intelligence Community that covered all collection disciplines would be a task of enormous magnitude and complexity, that no systematic methodology existed for undertaking such a task and no experience existed upon which to form a judgment as to its extent, and that one could not judge the utility of the product without having a concrete example, it was decided to select a single collection discipline and to perform a pilot baseline study. During the course of such a study a general methodology for both building and maintaining an information flow model would first be developed. Sample output would be produced which could be used to assess both the usefulness of the data gathered and the feasibility of implementing the effort in detail.

ELINT was chosen as the test bed and an existing contract was amended and supplemented for this purpose. In November 1978, an initial pilot study was produced. Evaluation of this initial product produced the following conclusions:

(a) The information produced was in far greater depth than originally contemplated for the scope of the effort involved.

(b) The methodology which was being developed appeared to be very well adapted for general application to other collection disciplines.

(c) Once completed, an effective maintenance strategy which would not involve the commitment of excessive amounts of resources appeared feasible.

(d) Such an information flow model would form an

ideal basis for functionally relating ADP and Telecom-

munications Resource Management and Planning, and should

have valuable applications in other areas as well.

Based upon this, and the potential value of the study for use in the

general consideration of ELINT Systems to be made during the FY 81 program

and budget cycle, it was decided to continue the effort so as to produce

a complete baseline study of ELINT during 1979 along with a general

methodology for the accomplishment of a complete data flow model for

the community across all collection disciplines and a plan for its mainte-

nance.

We believe that this contractual effort which we have initiated has

already enhanced our capacity both to deal with important current resource

allocation issues and to move forward more rapidly and effectively to

implement the type of coordinated planning effort which will support

the type of DCI level management of ADP and Telecommunications in the

Intelligence Community which you and the other Congressional Committees

have mandated.

III. Problems, Strengths, and Weaknesses of the Management Approach

In addressing this subject, perhaps, I should pause to say

that I believe that you can readily gather from the foregoing that the

successful attainment of the objectives which you, the other Committees

of Congress, and the DCI have laid out for us will not be accomplished

without cost. Effective management is not a free good. Adequate resources

must be allocated and the tools provided to get the job done. However,
I am convinced, based upon my experience in State government, that a
reasonable expenditure of resources for this purpose is an investment
which will pay tremendous divideneds in future cost avoidance and in
multiplying the effectiveness of the ADP expenditures which we know
will have to be made in increasing amounts by the Intelligence Community
in the future. The maintenance of the security of the country will
demand it. (*unless!*)

Somewhat paradoxically, the weaknesses of the current mananagement
approach also constitute its strengths. Given the complicated organiza-
tional structure of the Intelligence Community, which is not likely to
change substantially in the near future, and given the sheer size and
complexity of the Community's existing ADP and Telecommunication base,
only a bottom-up approach to planning implemented largely through the pro-
gram and budget process has a reasonable chance to succeed. The degree
of success which will be attained will depend to a great extent on
the cooperation of the elements of the Community and the encouragement
and support given by the DCI and Congress.

If the approach has weaknesses they might be characterized as follows:

o The ultimate responsibility for the development of the
overall Community plan and its execution must be assumed
by a very small staff.

o Success will require a large measure of cooperation and
support from all of the diverse elements of the Community.

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o   Success will also depend in large measure on the

interest and support given by both the DCI and Congress.

o   Manpower and fiscal constraints, the size and com-

plexity of the problem, and the means of seeking cooperation

all dictate that its implementation will be a long process.

On the other hand, this approach ensures the retention of sufficient

flexibility in the system to permit it to adjust to changing requirements

and technology. It will avoid the imposition of an excessive and costly

bureaucratic overhead. It will tend to minimize the extremely costly

effects of faulty planning and implementation which would be the result

of an overly centralized approach to management. Finally, it should

tend to be insulated as well as possible from the adverse effects which

could arise out of changes in administration and subsequent reorganization.

On balance, it appears to us that its strengths far outweigh its

weaknesses.

IV.   Future Plans and Long-Range Issues

At present our future plans include the following:

o   Continuing to develop and improve the capabilities

and impact of IRO in program review and budget develop-

ment.

o   Building IRO's capabilities to perform analysis of

matters of significance to the improvement of the

Community's ADP and Telecommunications support and

to the development and resolution of resource manage-

ment issues.

o Continuing to build an adequate information base
to support Community-level planning and resource
management; specifically, finishing the ELINT
Data Flow model and beginning Imagery in 1979.

o Producing the first iteration of a Community ADP
plan and organizing the annual process of build-
ing and updating the plan.

o Continuing to monitor the implementation of the
SAFE Project and other similar systems which the
Community will be developing.

o Following up on findings and recommendations of the
IHC Analyst Support Study and other studies which
will be completed in 1979.

In regard to the last mentioned item, one of the most significant
findings and recommendations of the analyst study is that a central
all-source bibliographic index and document storage and retrieval system
should be established and maintained. Concurrently, CIA has proposed a
study be undertaken to evaluate building such a system around their new
microfilm document storage and retrieval system. We consider this to be
an important Community initiative which will closely tie together the
total information resources of the Intelligence Community. We are now
beginning the effort to implement this study.

There is no lack of constructive work to be done. One of the long-range
issues will necessarily be to address the question of the proper amount of
resources in both manpower and contract support which should be devoted

to the Information Resources Office. Based upon our first year's experience, this issue will be addressed during the FY 81 program and budget cycle.

Other long-range issues, some of which will always be with us in one form or another, include:

o The impact of Computer Security considerations on
   ADP developments in the Community and what to do
   about it.

o The proper balance between investments in informa-
   tion processing and handling resources and other
   Community investments in collection, processing and
   production assets.

o The adoption, promulgation and enforcement of Community) *much care*
   ADP and Telecommunications standards.   *needed.*

o The proper place of the micro and mini computer in the
   information processing structure of the Community.

o Establishment of the proper boundaries between Com-
   munity-level management and Agency and component level
   management of ADP and Telecommunications resources.

o The extent to which it is feasible and desireable to
   implement the concept of distributed processing, given
   the unique constraints with in which the Intelligence
   Community will operate.

o The identification of better ways to fund and manage
   ADP and Telecommunications which simultaneoulsy support
   multiple elements in the Community.

In short, there is no lack of constructive and profitable work to be done. A continuing problem on the part of IRO will be to properly segment, scope and prioritize the tasks to be undertaken. If we spread ourselves too thin, then little will be accomplished. We recognize that if we are not able to produce concrete and tangible results whose worth can be measured, then the entire effort may fail. On the other hand, an over-eager approach designed to produce quick and dramatic results would also be a mistake.

In closing, may I take this opportunity to express my sincere appreciation for this Committee has taken in the work of our organization. We welcome the opportunity to continue to work closely with you and your staff in pursuing the important objectives for which the Information Resources Office was created.